

**State of Utah**JON M. HUNTSMAN, JR.
*Governor*GARY R. HERBERT
*Lieutenant Governor***Office of the Governor**
PUBLIC LANDS POLICY COORDINATIONJOHN HARJA
Director

July 7, 2009

RECEIVED E-Mail**JUL 14 2009****Div. of Oil, Gas & Mining**Jason Gipson, Project Manager
U.S. Army Corps of Engineers
533 West 2600 South, Suite 150
Bountiful, Utah 84010Subject: Public Notice SPK-2007-00121
RDCC Project No. 09-10589 [09-10516]

Dear Mr. Gipson:

The State of Utah, through the Public Lands Policy Coordination Office, has reviewed this project. PLPCO makes use of the RDCC for state agency review of activities affecting state and public lands throughout Utah. The RDCC includes representatives from the state agencies that are generally involved or impacted by public lands management. Utah Code (63J-4-501 *et seq.*) instructs the RDCC to coordinate the review of technical and policy actions that may affect the physical resources of the state and facilitate the exchange of information on those actions among federal, state, and local government agencies.

Potassium sulfate, commonly known as SOP, is produced from the waters of Great Salt Lake by Great Salt Lake Minerals (GSLM), a subsidiary of Compass Minerals of Overland Park, Kansas. SOP is an "organic" specialty fertilizer used on high-value crops such as fruits, vegetables, tea, tree nuts, turf grasses, and other crops that do not tolerate potassium chloride fertilizer. GSLM is currently upgrading and expanding their facilities to increase their production capacity to help meet the growing worldwide demand for SOP. This expansion will also provide additional jobs and tax revenue to the state. Still, the state finds that a number of topics of analysis would benefit from further discussion before a final decision is made. The state offers the following comments in the spirit of cooperation through disclosure, analysis and adherence to the provisions of law, regulation, good governance and common sense. The state understands that impact analyses is a dynamic process that will continue into the future, reserves the right to supplement these comments as necessary, and recognizes solutions to issues can be found through ongoing efforts.

1. General Comments on Great Salt Lake Salinity, Habitat, and Ecology

The Great Salt Lake (GSL) is of hemispheric importance to migratory waterbirds (waterfowl, shorebirds and wading birds), and many species use the GSL as nesting, feeding and staging areas. At times, millions of birds may be found on the GSL and the surrounding

wetland/upland habitat complexes. Since the GSL is a dynamic system, with lake elevation changing seasonally and annually, the abundance and location of habitats continually change over time. These seasonal changes create a diversity and continuity of available habitats, such that wildlife will travel around the GSL to find those habitats that supply their needs. It is because of this habitat diversity that the GSL has become critically important to wildlife, with the lake at times supporting over 50% of the worldwide populations of some avian species.

The potential impacts to waters and habitats within the lake and surrounding the lake environment need to be evaluated in the context of the current lake elevation levels. Dikes for evaporation ponds effectively constrain the waters of the GSL and reduce the extent of the lake's natural littoral zone, which provides the optimum shorebird habitat. In many areas, the natural shore of the GSL slopes gradually from the shore into the water, thus, creating expansive shallow water environments. The shoreline is dynamic and fluctuates as a response to evaporation rates and the inflow, or lack of inflow, of water into the GSL. Diking eliminates the natural shore by creating a very small, rocky littoral zone that deepens rapidly near the shore, benefiting only a few aquatic birds. The state recommends that an Environmental Impact Statement (EIS) evaluate how the presence of the proposed evaporation ponds may affect a significant portion of mudflat and shoreline habitat, thus, affecting resident and migratory waterfowl.

At low lake levels, the salinity concentration in the North Arm of the GSL increases beyond what wildlife and invertebrates can tolerate; an environment similar to evaporation ponds. Approximately 43% of the GSL is currently composed of developed evaporation ponds and areas with high salinities within the North Arm, which are unsuitable habitats for birds. This is a significant portion of the current total lake and pond surface area and underscores the tremendous value of the remaining available habitats. The creation of additional ponds, especially in the fresh water and brackish water habitats of Bear River Bay, would remove even more habitat from availability to wildlife.

The presence of selenium and mercury is a serious concern as it has been found within the GSL and surrounding wetlands. Within the last 3 years, the Utah Department of Health has issued a food consumption advisory due to high levels of mercury in three waterfowl species (northern shoveler, common goldeneye and cinnamon teal). These contaminants may enter the food web more quickly from project construction and flushing of brines/salts from the ponds. The state is concerned that these contaminants may enter the water column and move up through the food chain (algae, brine flies, brine shrimp, and birds). We recommend the EIS consider how construction, operation and maintenance of the evaporation ponds could affect contaminants in the GSL. At a minimum, we recommend a rigorous operation protocol that will monitor contaminant levels near areas of physical lake disturbances.

2. Wildlife Concerns Associated with Clyman Bay

The construction process and proximity of the project to Gunnison Island are likely to disrupt nesting birds. The island supports American white pelican, California gull, peregrine falcon, and great blue heron. There is currently a one-mile "no disturbance" buffer surrounding the island. This buffer was intended to provide security for nesting birds on the island from

boats or airplanes. The buffer does not take into account the construction or operation of features with noise or lighting exposure, or permanent structures, such as dikes or platforms, which may increase the likelihood of disruption to nesting colonial species. The current dikes in Clyman Bay are approximately four miles away from the island, and the proposed dikes would be even closer. The proximity of newly constructed dikes may provide predators, as well as human trespassers, easier access to Gunnison Island. Pelicans are known to be highly susceptible to any disturbance and will, at times, totally abandon nesting sites as recorded on Hat Island (in the South Arm of the GSL) in the 1960s when pelicans completely left that island due to human disturbances. Gunnison Island is the third largest breeding colony for American white pelicans in North America. The security and protection of this habitat is of great importance to the species. The state recommends that the proposed placement of dikes be evaluated in the context of low GSL water elevations which could provide de-facto "travel corridors" for predators to Gunnison Island.

Brine flies are the predominant food item for most migratory shorebirds that visit the GSL. During their life cycle, the flies must anchor to bioherms or stromatolites that form on the lake floor. These calcium carbonate structures appear to be essential to the reproductive life cycle of brine flies and are important to the brine shrimp population. At certain times of the year, brine shrimp sustain themselves by feeding on or near these productive structures. The structures are also essential to what is possibly the largest inland U.S. concentration of wintering common goldeneye. Bioherms are only found in a few areas of the GSL and they have been found within the area of the proposed Dolphin Island South Pond. The project area of Clyman Bay, if diked as an evaporation pond, will likely lose its bioherm structures. The state recommends the bioherms in both the North and South Dolphin Island Ponds be mapped to avoid directly or indirectly impacting the bioherms. The lake bottom of Bear River Bay should also be mapped to determine if bioherms may be impacted by proposed evaporation ponds.

2. Wildlife Concerns Associated with Bear River Bay and Willard Spur

The south end of Bear River Bay is extensively used by Canada geese and is recognized as an important molting area within the Pacific Flyway. Molting areas are typically characterized as large remote areas that are disturbance and predator free, and consequently can be sensitive to increased activity. Canada geese are also long lived and have high site fidelity for breeding, wintering and molting. Due to the established nature of Canada geese, and the rarity of suitable areas for molting on the GSL, the State is concerned that the values of the affected area may not be replaced or mitigated if lost due to the potential disturbances from this project.

Utah Division of Wildlife Resources (UDWR) data indicates that at lake elevations below 4,200 feet, there is a correlation of declining goose numbers (breeding and molting) with declining lake elevation. This may mean that goose use of Bear River Bay may be particularly sensitive to the amount of surface water available during dryer cycles, and any conversion of the limited amount of flooded area could affect the goose population. Between 1997 and 2001, and again between 2004 and 2006, UDWR conducted waterbird surveys throughout the GSL to gain an understanding of where waterbird species were located during different times of the year and in conjunction with varying water elevations. We urge the Army Corps of Engineers (ACOE) to utilize this data when analyzing all of the project alternatives within the EIS.

3. Comments on Additional Scoping Information Provided to the Utah Division of Wildlife Resources

Additional information provided to UDWR for review included aerial survey flight data of Bear River Bay. The graphs were difficult to read and did not appear complete. The maps of Shorebirds 2007 and 2008 and Waterbirds 2007 and 2008 do not include late spring/early fall months which would include shorebirds and waterbirds migrating during these months. During prior meetings and conversations with the project proponent, BioWest Consultants and the U.S. Army Corps of Engineers, UDWR personnel requested that flights continue during the late summer, fall and winter months to capture bird use during these critical time periods. UDWR has documented shorebirds migrating through the area in late summer, and ducks and waterbird species utilize Bear River Bay during the fall and winter months. We encourage the ACOE to document all seasons of waterbird use to provide a better understanding of year-round avian use of Bear River Bay.

The Behrens Trench is now proposed for "Efficiency Enhancement" which would include dredging to create a deeper and wider trench within the North Arm of the GSL. A pipeline to carry the brines may be inserted into the trench to reduce dilution losses of potassium. The trench excavation may necessitate depositing spoil piles adjacent to the trench. As stated above, bioherms have been found within the North Arm area and may be impacted by the proposed dikes. We recommend that the Behrens Trench area, including any areas that would support equipment or contain spoil piles, be surveyed for the presence of bioherms. When bioherms are located, the State recommends that efforts be undertaken to avoid negative impacts.

4. The Utah Mined Land Reclamation Act

The Utah Legislature in promulgating the Utah Mined Land Reclamation Act found that while mining is essential to the economic and physical well being of the state and nation, mined land should be reclaimed to provide for the subsequent use of the lands affected. Public Notice Number 2007-001212 document under "Other Governmental Authorizations" should include authorization required under Utah Code Ann. §40-8-1 *et seq.* or the Utah Mined Land Reclamation Act. Moreover, the statement found in the Notice that "the proposed project would result in approximately 80,000 acres of permanent adverse impacts to waters" is contrary to the Act. Methods to prevent these permanent adverse impacts and to reclaim the land and water should be explored in the analysis along with the following questions:

- Should the dikes be removed at the end of mining? Will wave action remove the dikes when no longer maintained? If the dikes remain will they prevent adequate mixing of lake waters?
- What will be the character of the residual salts in the evaporation ponds at the end of mining? Will this material be compatible with the water quality of the lake? Should the residual salts be removed, left in place, or covered at the end of mining?

5. Effects on the West Desert Pumping Project

The West Desert Pumping Project was designed, constructed and funded by the State of Utah to control the rising level of the Great Salt Lake. The main features of the project include a pumping station at Hogup Ridge, inlet and outlet canals, four trestles, about 25 miles of dikes, a 37 mile natural gas pipeline, a 10 mile access road between Lakeside and the pumping plant and a shallow 320,000 acre evaporation pond in the desert area west of the Newfoundland Mountains. The pumps were used from April 1987 until June 1989. The Utah Division of Water Resources (UDWRe) is the lead agency with regards to the project and continues to maintain them as an "insurance policy" against future Great Salt Lake flooding scenarios.

While existing ponds built by GSLM since 1989 isolate the inlet canal from the Great Salt Lake, the expansion project would further isolate the inlet canal. If there is ever a need to use the pumps in the future, UDWRe would need assurance that GSL Minerals would breach its dikes, excavate a trench, or do anything else needed to allow water to flow to the inlet canal. Moreover, the expansion area south of the railroad tracks looks like it would intercept return flow from the West Desert Pond. This return flow was an element of the West Desert Pumping Plant Project designed to return salts to the lake. The integrity of the DWRe West Desert Pumping Project permit with the BLM must be maintained which will allow for future operation of all of the facilities.

6. Potential Effects on Great Salt Lake Elevation

No elevations are given for the top of the new expansion dikes. The proposed dike top elevation should be included in the public notice so that the proposal can be more accurately evaluated. The Proposed GSLM ponds lie mostly in the bed of the Great Salt Lake when the lake is near its normal elevation of 4200 feet above MSL. DWRe modeling, during dry periods with the proposed ponds will increase the effective surface area of the lake and tend to lower lake elevations. The figure below shows the potential effect of GSLM pond operation on the Great Salt Lake for an elevation range of 4191.4 (the lowest recorded South-Arm lake stage) to 4206. Somewhere between elevation 4201 and 4202 there is no effect from the proposed ponds. Above that point the ponds tend to increase lake levels. A large increase in elevation difference occurs between 4195 and 4196 as the North Arm drops below the bed of the proposed ponds. Decreased lake salinity will increase evaporation and lower lake elevation.